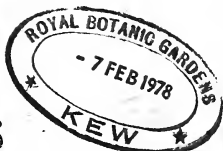


THE BEAN BAG

Current Research on Legumes



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Number SIX

November 1977

FROM THE EDITORS: The International Legume Conference at Kew 24 July to 4 August, 1978 continues to promise large dividends for the time and effort being invested by participants. In June a Working Party on the Systematics of the Genisteae met at Southampton in preparation for the Conference [F. A. Bisby report]. The two-day meeting was attended by about 20 European taxonomists, chemists and cytologists with interests in the Genisteae. On the first day surveys were presented of serological, protein electrophoresis, flavonoid, free amino-acid, alkaloid, pollen and cytological data, some of which showed interesting disagreement with the various morphological classifications. The second day involved much debate. Amongst the taxonomists there was a surprising level of agreement on how the chemical data could resolve ambiguities which have bedevilled classification based on morphology. Indeed a system was agreed by most participants and is now being circulated for further comment.

The Conference organizers have now mailed a provisional programme and they have informed us that only a few invitations remain of those to be issued for the taxonomy sessions. Invitations for the agronomic sessions in the second week have all been distributed.

And, if the program needs another idea, Jim Lackey writes, "After reading Steve Darwin's paper in TAXON concerning the subfamilial, tribal, and subtribal nomenclature of Rubiaceae, it occurred to me that Fabulogists are probably using many incorrect names at these levels in the Leguminosae. Two examples which immediately come to mind are the Papilionoideae as a substitute name for the Faboideae, and the use of Viciae instead of Fabeae (see Article 19). Someone with an inclination towards nomenclature might like to study the situation before the Legume Conference."

The Bean Bag now goes to about 250 individuals and libraries around the world. The editors plan for the May 1978 issue to be a directory of BB readers--our special contribution to the Legume Conference. We ask for your cooperation by returning the red sheet which is a part of this issue. TO APPEAR IN THIS FIRST WHO'S-WHO IN THE WORLD OF LEGUMES, YOU MUST RETURN THE FORM WITH QUESTIONS 1-6 ANSWERED, NOT LATER THAN 1 APRIL.

* * * * *

CHANGE OF ADDRESSES AND CORRECTIONS - You may wish to record these changes in earlier issues.

CLARK, E. A., Bean Program, CIAT, Apartado Aéreo 67-13, Cali, Columbia. (BB5, page 2).

FILGUEIRAS, T. de S., Cx. Postal 973, Goiânia, Goiás 74000, Brazil. (BB-1, page 6).

GREAR, J. W., 146 Stanyan Street, San Francisco, California 94118, USA (BB-1, page 6).

LACKEY, J. A., Botany Department, NHB 166, Smithsonian Institution, Washington, D.C. 20560, USA. (BB-2, page 3).

LEE, D. W., Institut Botanique, 5, Rue Auguste Broussonet, Montpellier, France. (BB-1, page 7).

STAINIER had his name incorrectly spelled (Stainer) in the Additions to Bean Bag Readership column of BB-5, page 3 [Apologies!].

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ADDITIONS TO BEAN BAG READERSHIP. (Please save this list as well as those in BB-1-5 for your future use. The May 1978 issue of the Bean Bag will contain a single alphabetical list of all BB readers along with their titles, addresses, and specialties.)

BARKOUDAH, Y., Department of Botany, Faculty of Sciences, University of Damascus, Damascus, Syria. (Biology and autecology of Acacia raddiana.)

CHANDEL, K. P. S., National Bureau of Plant Genetic Resources, Campus, New Delhi 11012, India.

CUBERO, J. I., Escuela Técnica Superior de Ingenieros Agrónomos, Departamento de Genética, Apartado 246, Córdoba, Spain.

DEBOUCK, D. G., Centro Internacional de Agricultura Tropical, Apartado Aéreo 67-13, Cali, Colombia. (Phaseolus, other than P. vulgaris L.).

DIAS DOS REIS, W., Rua 5 No. 11, Agua Branca, Goiânia, Goiás 74000, Brazil. (Wood anatomy of legumes.)

FORDE, M. B., Grasslands Division, DSIR, Private Bag, Palmerston North, New Zealand. (Plant Introduction Officer)

GORENFLOT, R., Laboratoire de Biologie Végétale C, Université de Paris XI, Batiment 362, 91405 Orsay - Cedex, France.

GUEVARA, L. G., de, Facultad de Agronomía, Universidad Central Venezuelana, Maracay, Venezuela. (Mimosoideae of Venezuela.)

LALA, R., Services de Botanique, EES Sciences, Université de Madagascar, B. P. 906 Tananarive, Malagasy Republic.

LIBRARY, Chemical Abstracts Service, Ohio State Univ., P.O. Box 3012, Columbus, Ohio 43210 USA.

MAHESHWARI, J. K., National Botanic Gardens, Lucknow, India.

NARAYANAN, A., College of Agriculture, Andhra Pradesh Agricultural University, Rajendranagar, Hyderabad - 500030, Andhra Pradesh, India. (Crop physiology).

NAYAR, N. M., Central Plantation Crops Research Institute, Regional Station, Vittal, 574243, Karnataka, India.

PERAZZO Barbosa, V., Centro de Ciecias e Tecnologia do U. F. Pb., Campus II, Areia 58397, Paraiba, Brazil.

RAMAMONJIARISOA, B., Department of Biology, University of Massachusetts, Amherst, Massachusetts 01003, USA. (Dalbergia spp. of East Africa and Madagascar.)

SCHULTZE-KRAFT, R., Centro Internacional de Agricultura Tropical, Apartado Aéreo 67-13, Cali, Colombia. (Tropical acid soil legumes.)

SONG, L., Centro Internacional de Agricultura Tropical, Apartado Aéreo 67-13, Cali, Colombia. (Phaseolus)

UNIVERSITY of NEBRASKA LIBRARIES, Lincoln, Nebraska 68588, USA.

WHITE, J. W., Centro Internacional de Agricultura Tropical, Apartado Aéreo 67-13, Cali, Colombia.

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IDENTIFICATIONS. Following are names of specialists who have expressed willingness to identify legumes and the groups they will accept. Arrangements should be made directly with them, in advance of shipment, using addresses in BB-1-6.

FILGUEIRAS: Dipteryx.

HAQ: Arachis and Phaseolus.

HUL THOL: Peltophorum.

SMARTT: Arachis and Phaseolus.

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GLEANINGS FROM DATA COLLECTING SHEETS. For addresses see readers lists in BB-1-6.

ARROYO writes that she has found a probable case of introgressive hybridization between two species of Copaifera in Central savannahs of Venezuela; just completed detailed study of pollinators of Copaifera pubiflora; has documented flowering periodicity for a period of four years in C. pubiflora with evidence for mast years. Populations present 3-4 flowering periods, each of 2-5 days length, separated by rest periods of up to two weeks. Also discovered details on the biology and rate of emergence (or infection) of three, apparently specific, seed predators. Needs information on breeding systems (presence of self-incompatibility; andromonecy, etc.) in legumes. Also observations on pollinators and their behavior - all for preparation of my talk at the Legume Conference. Information to Apartado 1969, Caracas, Venezuela.

BISBY, BELL, and J. H. Harris are investigating the free amino acids in seeds of the Cytisus/Genista complex. BISBY and M. T. Barac are experimenting with providing taxonomic services and retrieval of chemical information for tribe Viciaeae. BISBY and Harris have completed a survey of diverse taxonomic data for about 50 species of the Cytisus/Genista complex to study the problem of incongruence. Vegetative, pollen and floral morphology; seed proteins; free amino acids; seed alkaloids; floral

scent and UV reflectance were studied on cultivated plants of carefully documented, often wild, origin. Will exchange seeds of Genisteae as well as cuttings, fragments, flowers and pollen from collection of over 60 cultivated Genisteae species. Needs seeds of Viciae.

CHANDEL, a plant explorer in India, has been evaluating Alysicarpus, Atylosia, Clitoria, Crotalaria, Indigofera, Phaseolus, Rhynchosia, Teramnus, and Vigna. Works with Pisum, Psophocarpus, and Vigna and offers to exchange seeds of Alysicarpus, Atylosia, Pisum, and Vigna radiata, V. umbellata, and Psophocarpus tetragonolobus. Suggests a biosystematic study of Atylosia and its role in the evolution of Cajanus for a graduate student.

CORBY is searching for records of nitrogen content of seeds of Caesalpinioideae and Mimosoideae.

DEBOUCK would like to exchange seeds of Phaseolus s.s.; especially interested in wild species like P. formosus, P. pedicellatus, P. polystachyus, P. ritensis, et al.; also Neotropical Vigna and Macroptilium.

GIBBS sends this report. The Department of Botany of the State University of Campinas is collaborating with the Institute of Zootecnia Nova Odessa in a collection and study of the forage potential of native Brazilian legume species (Projeto Coleta e Introdução de Leguminosas Forrageiras, supported by the National Development Bank, BNDE, Funtec 280). The area of the collection extends between parallels 15-25°. Seed and nodule collections are accompanied by voucher herbarium specimens which are deposited at Campinas and Nova Odessa with further duplicates destined for Curitiba, Kew, New York, etc. Some 800 seed collections have been made so far, many of which are currently undergoing field trials. Future collecting trips are planned for southern Mato Grosso, west Paraná and Espírito Santo. Further information from Dr. Peter E. Gibbs or Dr. Hermógenes de Freitas Leitão Filho, Departamento de Botânica, UNICAMP, CxP. 1170, Campinas 13100, São Paulo, Brazil.

HAQ has started a cytogenetic investigation of Psophocarpus tetragonolobus and wants P. tetragonolobus from Malaysia, Indonesia, and Thailand as well as wild Arachis and Phaseolus spp.

HUL THOL has completed a palynological study of Saraca and with M. Hideaux has a paper in press on gross morphology and palynological characters of Pterolobium. Has started three projects: her dissertation on variation, speciation and evolution in the Caesalpinieae; revision of Peltophorum; and study of infrageneric parameters within Caesalpinia. Needs viable seeds of Acrocarpus, Caesalpinia, (including Mezoneuron), Delonix, Gleditsia, Gymnocladus, Parkinsonia, Peltophorum, Pterolobium, and Wagatea. See also VIDAL.

KRUKOFF needs seeds of these Indian genera: Aganope, Derris, Dunbaria, Eleiotis, Indopiptadenia, Leptodesmia, Nogra (Grona), Ougeinia, Oxyrhynchus, Rothia. Also needed are large seed samples and one kilo of dried roots of Derris as well as seeds of Lonchocarpus for amino acid, alkaloid, and flavonoid studies.

LACKEY was selected as a postdoctoral fellow by the Smithsonian Institution for one year beginning 1 June 1977. During this time the collections of American Phaseolinae will be studied to develop a generic revision of the group along the lines of Roger Polhill's recent revision of Genisteae. In October, he will visit the laboratory of Nels Lersten to prepare for publication a section of his dissertation on anatomy of Phaseoleae leaves.

LANGENHEIM see SILVA

SCHULTZE-KRAFT writes that CIAT is currently emphasizing acid-soil legumes (Aeschynomene, Centrosema, Desmodium, Galactia, Macroptilium, Stylosanthes, and Zornia) in their beef production program. Collection trips are made to the savanna regions of Brazil, Colombia, and Venezuela. About 3,000 legume accessions have been evaluated by the program. He would like to exchange tropical legume herbarium specimens and germplasm.

SILVA has started to monograph Dimorphandra Schott and to collect data for a monograph of Copaifera with LANGENHEIM. Would like photographs of species of the two genera as well as bibliographic data and type photographs.

SLINKARD needs seeds of Lens spp. other than L. culinaris (L. esculenta).

SMARTIT is studying the cytogenetics of Psophocarpus tetragonolobus and needs seeds from Indonesia, Malaysia, and Thailand. Also needs seeds of wild species of Arachis and Phaseolus.

SONG maintains, evaluates and distributes some 12,000 accessions of Phaseolus vulgaris and is interested in developing some form of numerical taxonomy for identifying duplicate samples as well as for future sampling requirements.

VIDAL and HUL THOL have named a new species of Saraca and completed a palynological study of the genus. Plan to revise genus Peltophorum. See also HUL THOL.

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RECENT (POST 1975) LEGUME LITERATURE. When preparing a citation of your published legume paper or legume papers of general interest, please follow the form used in this BB. Use additional key words when needed to supplement the title. Major publications may have brief reviews. For additional information or reprints write to the author or authors whose names are fully capitalized. Their addresses may be found in BB-1-6. Only papers with complete citations will be accepted; citations of papers in press should not be submitted.

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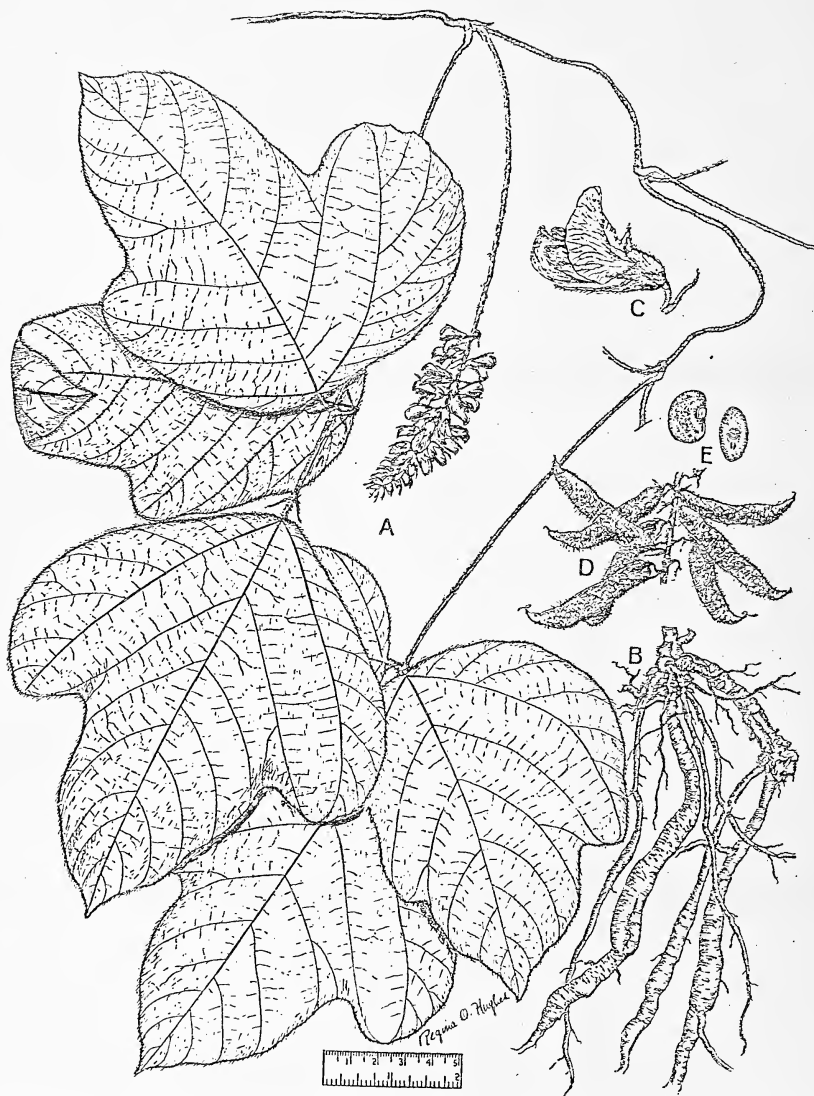


FIGURE 116.—*Pueraria lobata* (Willd.) Ohwi. Kudzu. A, Habit— $\times 0.5$; B, root— $\times 0.25$; C, flower— $\times 2$; D, legumes— $\times 0.5$; E, seeds— $\times 2.5$.

From U.S. Department of Agriculture,
Agricultural Handbook Number 366, 1970.